Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Installation Procedures (IP) for
the Developer's Toolkit Version 3.2.0.1 (Windows NT 4.0)

Document Version 1.0

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1. Scope

1.1 Identification

This Installation Procedures (IP) Manual describes how to install the Defense Information Infrastructure (DII) Common Operating Environment (COE) Developer's Toolkit Version 3.2.0.1 (Windows NT 4.0). The Developer's Toolkit Version 3.2.0.1 (Windows NT 4.0), a Government off-the-shelf (GOTS) product, is intended to be used on hardware running the Windows NT 4.0 Operating System.

NOTE: Throughout this document, `courier` font is used to indicate entries to be typed at the keyboard, NT commands, file and directory names, and screen text. For example:

> The file is located in the `DII_DEV` directory.

1.2 System Overview

The Defense Information Infrastructure (DII) Common Operating Environment (COE) Developer's Toolkit is a tool needed to create segments that use DII COE components. The Developer's Toolkit is distributed separately from the DII COE Kernel on floppy diskette(s).

By default, developer's tools are located underneath the `DII_DEV` directory and are distributed as part of the Developer's Toolkit. The actual location of the Developer's Toolkit may vary from system to system. For example, if the toolkit is moved to `\h`, the path would be `\h\DII_DEV`.

As distributed, the Developer's Toolkit contains the following:

- C 8 developer tools located in the `bin` directory

- C `include` files located in the `include` directory

- C public Application Programmer Interface (API) libraries located in the `libs` directory

- C public API examples located in the `examples` directory

- C sample segments located in the `SampleSegments` directory.

Reference the *DII COE Software Version Description for the Developer's Toolkit (Windows NT 4.0)* for more information about the Developer's Toolkit.

The components of the Developer's Toolkit are described below.

bin Directory

The DII_DEV\bin directory contains executables for the developer tools. The following developer's tools are delivered along with the DII COE Kernel Version 3.2.0.0 Patch 1 delivery. The *DII COE Programming Guide (*Windows NT 4.0*)* describes these tools and their functionality in more detail.

CalcSpace Version 1.0.0.7–Computes the space required for the segment specified and updates the hardware descriptor.

CanInstall Version 1.0.0.9–Tests a segment to determine if it can be installed, which means that all required segments must already be on the disk and the disk cannot have any conflicting segments.

MakeInstall Version 1.0.1.8–Writes one or more segments to an installation medium or packages the segments for distribution over the network.

TestInstall Version 1.0.0.10 –Installs a segment (temporarily) that already resides on disk.

TestRemove Version 1.0.0.9–Removes a segment that was installed by the TestInstall tool.

TimeStamp Version 1.0.0.9–Puts the current time and date into the VERSION descriptor of the specified segment.

VerifySeg Version 1.0.0.10–Validates that a segment conforms to the rules for defining a segment.

VerUpdate Version 1.0.1.8–Increments the segment version number and updates the date and time in the VERSION descriptor of the specified segment.

include Directory

The DII_DEV\include directory contains public include files, which are used to compile with the public APIs.

libs Directory

The DII_DEV\libs directory contains public API libraries.

`examples` Directory

The `DII_DEV\examples` directory contains a list of example C programming files, which show developers how to use the public APIs.

`SampleSegments` Directory

The `DII_DEV\SampleSegments` directory contains basic templates of DII COE segments that can be used to test segment installation and execution.

For DII COE Developer's Toolkit Version 3.2.0.1 issues, contact the DII COE Hotline at the OSF Support Center (OSC) by one of the following methods:

C   Telephone (703) 735-8681

C   Facsimile (703) 735-3080

C   Web site: http://spider.osfl.disa.mil/dii/hotline/index.html.

2.   Referenced Documents

The following documents are referenced in or are related to this installation guide:

C   DII.3200.NT40.DTK.3201.SVD-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Software Version Description for Developer's Toolkit Version 3.2.0.1 (Windows NT 4.0)*, Document Version 1.0, November 14, 1997

C   DII.3200.NT40.PG-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.2.0.0 Programming Guide (*Windows NT 4.0*)*, June 13, 1997

C   DII COE I&RTS: Rev 3.0, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Integration and Runtime Specification Version 3.0*, January 1997.

3.   System Environment

This section describes the system requirements and the system and site preparation.

3.1 System Requirements

This section describes DII COE hardware components, Windows NT 4.0 Operating System components, and DII COE Kernel components for the Windows NT 4.0 Operating System.

3.1.1 Hardware Components

The following hardware components are required. The software may reside on a single hard disk or across multiple hard disks.

Personal computer. An 80486 personal computer or higher.

Memory. At least 16 megabytes (MB) of random access memory (RAM) (12 MB minimum is required for Windows NT).

Source devices. A CD-ROM drive to load the operating system; a 3.5-inch high-density floppy drive to load the software.

Disk space for the operating system, runtime and temporary files, swap space, and tools. Recommend 200 MB free hard disk space distributed approximately as follows:

Windows NT 4.0 Operating System	125 MB
DII COE runtime files	1.5 MB
Swap space and temporary files	40 MB (recommended)
DII COE Tools	2.5 MB (developers only)

Disk space for segments and data. Recommend 500 MB free hard disk space for segments and data.

3.1.2 Operating System Requirements

The following Windows NT Operating System is required:

Windows NT 4.0 Operating System.

3.1.3 Kernel Requirements

The DII COE Developer's Toolkit requires the DII COE Developer's Toolkit Version 3.2.0.1 (NT 4.0) 3.5" diskettes. The DII COE Kernel is a suite of applications layered on top of the Windows NT 4.0 Operating System.

3.2 System and Site Preparations

This section describes the system configuration, operating system preparation, and the disk preparation.

3.2.1 System Configuration

The DII COE Developer's Toolkit requires the Windows NT 4.0 Operating System. The DII COE Kernel is a suite of applications layered on top of the NT 4.0 Operating System.

3.2.2 Operating System Preparation

No special Windows NT 4.0 Operating System configuration setting is necessary for the installation or operation of the DII COE Developer's Toolkit Version 3.2.0.1.

3.2.3 Tape/Disk Preparation

Two 3.5" floppy diskettes containing the DII COE Developer's Toolkit Version 3.2.0.1 for Windows NT 4.0 are required. Ensure that the hard disk has enough disk space to install the Developer's Toolkit Version 3.2.0.1, which is 1.9 MB.

4. Installation Instructions

This section describes the media booting procedures, the installation procedures, installation of upgrades, installation verification, initializing software, list of changes and enhancements, and important considerations.

4.1 Media Booting Procedures

Not applicable.

4.2 Installation Procedures

Follow the steps below to install the DII COE Developer's Toolkit.

> **NOTE**: By default, the Developer's Toolkit is located under the `DII_DEV` directory. Developers, however, may install the Developer's Toolkit on the disk in any directory they desire. For example, if the toolkit is moved to `\h`, the path would be `\h\DII_DEV`.
>
> **NOTE**: Installing the Developer's Toolkit takes 2-3 minutes.

STEP 1: **Log in as `Administrator` if you are not already logged in**. In the `Logon Information` window, `Administrator` should appear in the `User name` field by default. Type the `Administrator` password in the `Password` field and click on the `OK` button.

STEP 2: **Insert the first Developer's Toolkit installation floppy diskette**. Place the first DII COE installation diskette in drive `A:`.

STEP 3: **Choose a directory for installation**. Choose a directory on your hard drive into which the tools can be installed.

> **NOTE**: These developer's tools are not location-sensitive and can be moved to any directory desired for development; however, the provided Dynamic Link Libraries (DLLs) must remain in the same directory with the tools that require them or must be in a location that is also included in the `PATH` environment variable Therefore, it is recommended that the tools remain in the same directory (i.e., `DII_DEV\bin`).

STEP 4: **Copy the first part of the `DII_DEV` directory to the desired location**. To copy the contents of the `DII_DEV` directory from the first Developer's Toolkit floppy diskette to the desired location, click on the `Start` button on the task bar, point to `Programs`, and click on the `Windows NT Explorer` option. The `Exploring` window appears. Double-click on the `A:` drive and then click on the `DII_DEV` directory to highlight it. Select the `Copy` option from the `Edit` pull-down menu. Double-click on the destination directory (e.g., `\h`) and select `Paste` from the `Edit` pull-down menu. The `DII_DEV` directory is then copied to the new location.

STEP 5: **Insert the second Developer's Toolkit installation floppy diskette**. Remove the first installation floppy diskette after it has finished copying and insert the second installation floppy diskette.

STEP 6: **Copy the second part of the `DII_DEV` directory from the second diskette to the desired location**. To copy the contents of the `DII_DEV` directory from the second Developer's Toolkit floppy diskette to the location chosen in STEP 4, click on the `Start` button on the task bar, point to `Programs`, and click on the `Windows NT Explorer` option. The `Exploring` window appears. Double-click on the `A:` drive and then click on the `DII_DEV` directory to highlight it. Select the `Copy` option from the `Edit` pull-down menu. Double-click on the destination directory (e.g., `\h`) and select `Paste` from the `Edit` pull-down menu.

STEP 7: **Confirm that you want to copy the files from the `DII_DEV` folder**. Because none of the file names are the same and therefore no files will be replaced, it is safe to finish copying the files. A `Confirm Folder Replace` window appears with the following message:

> This folder already contains a folder called >DII_DEV.
>
> If the files in the existing folder have the same name as the files in the folder you are moving, do you want to replace the existing files?

Click on the `Yes to All` button. The contents of the `DII_DEV` directory are then copied to the new location. The Developer's Toolkit is installed.

STEP 8: **Add an entry in your `PATH` environment variable**. Add an entry in your `PATH` environment variable for the `DII_DEV\bin` directory. To add this entry, click on the `Start` button on the task bar, point to `Settings`, and click on `Control Panel`. The `Control Panel` window appears. Double-click on the `System` icon to open the `System Properties` window. Click on the `Environment` tab.

If the `PATH` environment variable appears in the `User Variables for Administrator` panel, highlight it. The word `Path` should appear in the `Variable` field and a list of one or more paths separated by semicolons should appear in the `Value` field. Place your cursor at the end of this list of paths and type `[directory]\DII_DEV\bin` in the `Value` field, where `[directory]` is the directory on your hard drive in which you installed the Developer's Toolkit.

If the `PATH` environment variable does not appear in the `User Variables for Administrator` panel, type `Path` in the `Variable` field and type `[directory]\DII_DEV\bin` in the `Value` field.

Click on the Set button to establish the path as a setting in the User Variables for Administrator panel. Then click on the OK button in the System Properties window to exit the window.

4.3   Installation of Upgrades

Not applicable.

4.4   Installation Verification

To verify the installation of the Developer's Toolkit, reboot your system and log in as root. All of the components of the Developer's Toolkit will reside under the DII_DEV directory. The Developer's Toolkit components that should be found in DII_DEV are listed below:

executables	DII_DEV\bin
public header files	DII_DEV\include
public libraries	DII_DEV\libs
examples	DII_DEV\examples
sample segments	DII_DEV\SampleSegments

Figure 1. Developer's Toolkit Components

Developers should include DII_DEV\bin in the path environment variable for their development environment. Developers are encouraged to submit tools to the COE community for inclusion in the Developer's Toolkit. All tools submitted must be license and royalty free and must include a manual page for on-line documentation.

Reference *DII COE Integration and Runtime Specification* for a more detailed explanation of the development environment.

4.5   Initializing the Software

No initialization is required for the DII COE Developer's Toolkit Version 3.2.0.1.

4.6   List of Changes and Enhancements

For additional information on changes and enhancements made to the Developer's Toolkit Version 3.2.0.1, see the *DII COE Software Version Description for the Developer's Toolkit Version 3.2.0.1*.

4.7 **Important Considerations**

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5. **Notes**

The following acronyms and abbreviations are used in this document:

API   Application Programmer Interface

COE   Common Operating Environment

DII   Defense Information Infrastructure

GOTS   Government off-the-shelf

IP   Installation Procedures

OSC   OSF Support Center

SVD   Software Version Description.

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